

Abstract

The invention provides an article, a method and an apparatus of forming expanded plastic materials in a steam chest mold having out of die draw features. This is achieved by means of a cavity pull system. The cavity pull system allows for the provision of molded features outside the die draw and is designed to operate on a cam type system using two stainless steel rods running at a right angle to one another. A gear mechanism allows molded features, e.g. holes, to be formed at any angle on any part design where enough part geometry exists to accommodate the forming features and in the tool for mechanism components. The invention is advantageously employed in the formation of holes outside the die draw in vertically stacked injection tools for energy absorbers used in vehicle bumper fascias. The provision of out of die draw molded features is useful for fascia component locating or attachment.